current methods for producing microcontact structures (for example on a silicon, silicon or polyimide base (see Figures 1-4)).

In the embodiments depicted in Fig. 1a and 1b a two-dimensional microcontact structure is portrayed. This structure comprises two regions, items 14 and 16, that are foldable about and axis 12. Fig. 1c depicts a simpler embodiment which depicts a microcontact structure which capable of being rolled. Accordingly, these embodiments relate to a microcontact structure that can be folded or rolled very compactly in a second step for transportation purposes in a surgical procedure. Subsequent to its delivery to the implantation point, the structure can not only be unfolded planarly in a third step but may be folded or rolled into a third dimension (See Figures 1-3) so that a three-dimensional structure is produced. By way of example, Fig 2a depicts an embodiment of the invention in which the initial two-dimension microcontact structure contains a gap 20 and notches 22 which permit the structure to be rolled into a three-dimensional object.

Fig. 3 depicts an example in which the folding of regions of the structure (e.g. items 14 and 16) create three dimensional objects at the implantation sites, 30 and 32.

Paragraph Commencing at Page 4, Line 15:

An advantageous microcontact structure embodies the feature that on the side adjacent to the nerve tissue after implantation, are provided projecting structures (for example in the form of microelectrodes, sensors, cannulas or nails) that are essential for the mechanical anchorage of the microcontact structure. Fig. 3 depicts an example in which the folding of regions of the structure (e.g. items 14 and 16) create a three dimensional object at the implantation sites, 30 and 32.

Paragraph Commencing at Page 4, Line 35:

B3 An advantageous transport lock embodies the feature that the microcontact structure is held in the transportation position by a clamp that absorbs the forces or an envelope or pinning. Fig. 1a depicts an example of such a lock feature wherein the folded structure 10 is secured in this position by a clamp 18.

Paragraph Commencing at Page 6, Line 9:

B4 A further advantageous device of a spatially adaptive microcontact structure embodies the features (as a result of the self-unfolding) that the structure assumes a shape in which it can engage with the tissue of the implantation site as a result of raised microcontacts 34 (see Figure 3).

Paragraph Commencing at Page 6, Line 29:

B5 A further advantageous method embodies the feature that the microcontact structure is based on a substrate of multilayer construction that has so-called memory properties with regard to the spatial arrangement of the microcontact structure. Figure 4 shows a section through an advantageous 4-layer microcontact structure in which the active connection between the microcontact structure and the nerve tissue is brought about electrical stimulation.

In the embodiment depicted in Fig. 4a, the layer 42 adjacent to the nerve tissue to be stimulated 40 is composed of a polymer P1 (polyimide) and contains penetrating electrodes 34 made of [the] a metal M such as platinum which also forms the adjoining

layer 44. There follows a further layer 46 of the polymer P1 and a top layer 48 of the polymer P2 (polyurethane).

B5

The polymer P2 has the property of a different rate of thermal expansion relative to P1. This property is utilized with an application of infrared radiation (IR) as depicted in Fig. ~~3~~4b whereby a defined volume expansion is brought about by irradiation with IR light.

Paragraph Commencing at Page 7, Line 10:

B6

In this way, the microcontact structure 10 is deformed at defined points by focused irradiation and matched to the shape of the nerve tissue 40. Thus, as depicted in Fig. 4b, the structure 10 has been deformed into a slight curvature to match the curvature of the nerve tissue 40. In an additional embodiment depicted in Fig. 4c, the polymer P2 has the property of carrying out structural transitions during electromagnetic irradiation from the ultraviolet wavelength range, said transitions resulting in contraction of the material. As a result, the formation previously achieved by IR light can be compensated for, that is reversed, by means of focused UV treatment so that detachment of the microcontact structure from the nerve tissue can be performed. In this way, the re-explanation of the microcontact film is initiated.